

REMARKS

Upon entry of the instant amendment, claim 4 will have been presented in independent and allowable form, and claims 1 – 20 will remain pending in the application. The above amendments do not add new matter to the application and are fully supported by the specification. In particular, in accordance with the Examiner's indication that claim 4 would be allowable if presented in independent form that include all the features of its base claim and any intervening claims, Applicants have so presented claim 4 in independent and allowable form.

Reconsideration of the rejected claims in view of the above amendments and following remarks is respectfully requested.

Acknowledgement of Allowable Subject Matter

Applicants gratefully acknowledge the Examiner's indication that claim 4 contains allowable subject matter and would be allowable if presented in independent form to include all the features of its respective base claim and any intervening claims. By the present amendment, claim 4 has been presented in independent and allowable form.

Accordingly, Applicants request that the Examiner indicate the allowability of claim 4 in the next official communication.

Traversal of Rejection Under 35 U.S.C. § 103

1. **Over Chen in view of Metz**

Applicants traverse the rejection of claims 1, 2, 5 – 8, 10 – 13, 15 – 18, and 20 under 35 U.S.C. § 103(a) as being unpatentable over CHEN (U.S. Patent No. 6,556,398)

in view of METZ et al. (U.S. Patent No. 5,400,202) [hereinafter "METZ"]. The Examiner asserts that CHEN shows all of the features except a low frequency filter, but that it would have been obvious to modify CHEN to add the low frequency filter disclosed by METZ, because METZ discloses that the RC triggering arrangement's presence, the ESD network is not sensitive to power up events. Applicants traverse the Examiner's assertions.

Applicants' independent claim 1 recites, *inter alia*, a bias network configured to bias a gate of a first transistor of the transistor network to a portion of a voltage value of the voltage source, and a trigger network configured to communicate the occurrence of an electrostatic discharge event to the gate of a second transistor of the transistor network. Further, Applicants' independent claim 7 recites, *inter alia*, a voltage divider configured to a gate of the upper nFET to a prescribed value, and a low frequency filter connected to a gate of the lower nFET and configured to filter out low frequency signals between at least one power supply rail and the gate of the lower nFET. Finally, Applicants' independent claim 12 recites, *inter alia*, configuring a gate of at least one upper transistor of a transistor network connected between power rails to be biased to a prescribed value, and coupling an electrostatic discharge event to a gate of a lower transistor of the transistor network. Applicants submit that no proper combination of the applied documents teaches or suggests at least the above-noted features of the invention.

As acknowledged by the Examiner in the Final Office Action, CHEN fails to disclose a low frequency filter. However, Applicants acknowledge CHEN shows a series arrangement of an upper and lower transistor 13 and 15, in which the gate of transistor 13 is biased by voltage divider 21. In this manner, during an ESD event, voltage divider 21 receives a high voltage from the pad and outputs V_g to the gate of transistor 13, which

turns on transistor 13 so that the ESD flows through transistors 13 and 15.

In contrast, METZ shows an SCR latchup device to divert an ESD current pulse away from protected circuitry. In this regard, METZ utilizes an RC triggering arrangement to sense the ESD event and trigger NMOS 18, which in turn latches the SCR to divert the ESD pulse.

Applicants note that, contrary to the manner in which the Examiner seeks to modify CHEN in view of METZ, METZ provides no teaching or suggestion for utilizing an RC triggering arrangement in a system such as CHEN, in which the ESD flow can be directed through transistors 13 and 15 merely through detection of the high voltage at the voltage divider biasing transistor 13.

Further, Applicants note that the Examiner has not shown any motivation or rationale for modifying transistor 15, having its gate and source connected to Vss, to couple the gate to the RC triggering arrangement of METZ. Moreover, even assuming, *arguendo*, one ordinarily skilled in the art were to find it obvious to modify CHEN in the manner asserted by the Examiner (which Applicants submit one would not), the Examiner has not shown any support in the art of record to assert the CHEN device as modified by METZ would continue operate in its intended manner.

In fact, the Examiner has merely identified two distinct manners for drawing ESD current away from protected circuitry, i.e., biasing the gate of an upper transistor of a transistor series arrangement, in which the gate and source of the lower transistor are both connected to Vss, to draw the ESD current through the transistor series arrangement when a voltage divider biasing the upper transistor senses a high voltage (CHEN), or utilizing an RC triggering arrangement to trigger an NMOS transistor to latchup an SCR to divert the

ESD current from the protected circuitry (METZ). However, the art of record in no arguable manner teaches or suggests any manner of combining these distinct actuating arrangements for diverting ESD current away from protected circuitry.

Thus, while a somewhat reasonable argument may be proffered that it may have been obvious to modify the voltage divider of CHEN with the RC triggering arrangement of METZ, this is not the basis of the Examiner's rejection. Instead, the Examiner is suggesting *adding* the RC triggering arrangement to CHEN, while maintaining the biasing on the gate electrode of transistor 13 by the voltage divider. The Examiner further appears to assert that the applied art suggests it would have been obvious to connect the RC triggering arrangement to the gate electrode of transistor 15. However, the Examiner has not shown any reason as to why one ordinarily skilled in the art would make this modification.

In this regard, Applicants note that, in establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the Examiner to provide a reason *why* one of ordinary skill in the art would have found it obvious to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See *Ex parte Clapp*, 227 USPQ 972 (BPAI 1985) To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from Applicant's disclosure. See, for example, *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Notwithstanding the Examiner's statement in the rejection that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Chen solution by adding the low frequency filter according

to Metz et al.," Applicants contend that this is not a reason *why* one of ordinary skill in the art would have been led to modify the device of CHEN.

Moreover, it is respectfully submitted that the courts have long held that it is impermissible to use Applicants' claimed invention as an instruction manual or "template" to piece together teachings of the prior art so that the claimed invention is purportedly rendered obvious. See *In re Fritch*, 972 R.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

In this regard, Applicants again note that CHEN discloses an ESD protection device activated by application of a high voltage to a voltage divider biasing the gate electrode of a transistor, whereas METZ discloses an ESD protection device activated by an RC trigger coupled to the gate of a transistor. Thus, while these document disclose distinct manners for actuating the diversion of the ESD, there is no teaching or suggestion in the art for utilizing both actuation devices together, as asserted by the Examiner.

Moreover, as these actuation devices are disclosed in their respective documents as essential alternatives to each other, the art of record fails to provide any reason why one ordinarily skilled in the art would combine these actuation devices in a single device.

Because the art of record fails to teach or suggest any reason why one ordinarily skilled in the art would combine the documents of record in the manner asserted by the Examiner, Applicants submit that no proper combination of the applied documents teaches or suggests, *inter alia*, a bias network configured to bias a gate of a first transistor of the transistor network to a portion of a voltage value of the voltage source, *and* a trigger network configured to communicate the occurrence of an electrostatic discharge event to the gate of a second transistor of the transistor network, as recited in at least independent

claim 1. Further, Applicants submit that no proper combination of the applied documents teaches or suggests, *inter alia*, a voltage divider configured to a gate of the upper nFET to a prescribed value, *and* a low frequency filter connected to a gate of the lower nFET and configured to filter out low frequency signals between at least one power supply rail and the gate of the lower nFET, as recited in at least independent claim 7. Finally, Applicants submit that no proper combination of the applied documents teaches or suggests, *inter alia*, configuring a gate of at least one upper transistor of a transistor network connected between power rails to be biased to a prescribed value, *and* coupling an electrostatic discharge event to a gate of a lower transistor of the transistor network, as recited in at least independent claim 12.

Further, Applicants note rejections based on 35 U.S.C. § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Examiner has the initial duty of supplying the factual basis for the rejection and may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis. *See In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967).

As stated in *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984):

[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

Applicants submit that the only reasonable rationale for combining the teachings of CHEN and METZ in the manner proposed by the Examiner results, not from any teaching or suggestion gleaned from reviewing the applied documents, but from a review of

Appellants' disclosure and the application impermissible hindsight.

Further, Applicant submits that claims 2, 5, 7, 8, 10, 11, 13, 15 – 18, and 20 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicants submit that no proper combination of CHEN and METZ even arguably teaches or suggests the combination of features recited in these dependent claims.

Accordingly, Applicants submit that the pending rejection of the claims cannot be sustained under 35 U.S.C. § 103(a), and request that the Examiner reconsider and withdraw the rejection of claims 1, 2, 5 – 8, 10 – 13, 15 – 18, and 20 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

2. Over Chen in view of Metz and In re Boesch

Applicants traverse the rejection of claim 19 under 35 U.S.C. § 103(a) as being unpatentable over CHEN in view of METZ and Court Decision *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The Examiner asserts that CHEN and METZ disclose all the elements of claims 1 and 2, and that it would have been obvious to include a high pass filter having a time constant of one microsecond. Applicants respectfully disagree with the Examiner.

As discussed above, no proper combination of CHEN and METZ teaches or suggests the combination of features recited in at least independent claim 12, from which claim 19 depends. Moreover, Applicants note that the identified case law fails to provide the requisite motivation or rationale to render the asserted combination of CHEN and

METZ proper under 35 U.S.C. § 103(a).

Accordingly, Applicants submit that no proper combination of the applied art renders unpatentable the combination of features recited in at least independent claim 12. As such, Applicants submit that no proper combination of these documents can even arguably suggest the combination of features recited in at least claim 19. Thus, Applicants submit that the instant rejection is improper and should be withdrawn.

Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 19 under 35 U.S.C. § 103(a) and indication that this claim is allowable.

3. Over Chen in view of Metz and St. Regis Paper

Applicants traverse the rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over CHEN in view of METZ, in further view of Court Decision *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8, 11 (7th Cir. 1977). The Examiner asserts CHEN and METZ disclose all the elements of claims 1 and 2, and that the inclusion of a third transistor is obvious. Applicants respectfully disagree with the Examiner.

As discussed above, no proper combination of CHEN and METZ teaches or suggests the combination of features recited in at least independent claim 1, from which claim 3 depends. Moreover, Applicants note that the identified case law fails to provide the requisite motivation or rationale to render the asserted combination of CHEN and METZ proper under 35 U.S.C. § 103(a).

Accordingly, Applicants submit that no proper combination of the applied art renders unpatentable the combination of features recited in at least independent claim 1. As such, Applicants submit that no proper combination of these documents can even arguably

suggest the combination of features recited in at least claim 3. Thus, Applicants submit that the instant rejection is improper and should be withdrawn.

Moreover, Applicants transverse the Examiner's assertions that claim 3 recites that the third transistor is connected in exactly the same way as the first transistor. Applicants note that no such language appears in claim 3, such that the Examiner cannot base his obviousness rejection on this language.

Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 3 under 35 U.S.C. § 103(a) and indication that this claim is allowable.

4. Over Chen in view of Metz and further in view of Gelecinskyi

Claims 9 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over CHEN in view of METZ, in further view of Gelecinskyi et al. (U.S. 4,916,381) (GELECINSKYI). The Examiner assert that CHEN and METZ disclose all the elements of claims 7 and 12, and that GELECINSKYI meets the deficiencies of CHEN and METZ. This rejection is respectfully traversed.

As discussed above, no proper combination of CHEN and METZ teaches or suggests the combination of features recited in at least independent claims 7 and 12, from which claims 9 and 14 respectively depend. Moreover, Applicants note that GELECINSKYI fails to provide the requisite motivation or rationale to render the asserted combination of CHEN and METZ proper under 35 U.S.C. § 103(a).

Accordingly, Applicants submit that no proper combination of the applied art renders unpatentable the combination of features recited in at least independent claim 7 and 12. As such, Applicants submit that no proper combination of these documents can even

arguably suggest the combination of features recited in at least claims 9 and 14. Thus, Applicants submit that the instant rejection is improper and should be withdrawn.

Accordingly, Applicants request reconsideration and withdrawal of the rejection of claim 9 and 14 under 35 U.S.C. § 103(a) and indication that this claim is allowable.

Application is Allowable

Thus, Applicants respectfully submit that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 102 and 103, and respectfully request the Examiner to indicate allowance of each and every pending claim of the present invention.

CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious Applicant's invention, as recited in each of claims 1 – 20. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed

to be appropriate.

Should the Examiner have any questions or comments, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
Kiran V. Chatty et al.

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', written over a horizontal line.

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January 20, 2006
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